

1. (Currently amended) A process for treatment of at least one condition chosen from seborrhoea of the skin and scalp, disorders associated with seborrhoea, and disorders associated with microorganisms of the genus *Propionibacterium*, said process comprising:

applying to an area in need of said treatment at least one compound chosen from polyamino acid derivatives of formula (I) and salts thereof,

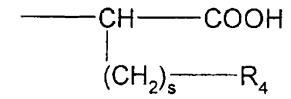
$$R_{1} = X = \begin{bmatrix} C & CH & N \\ | & | \\ O & R_{2} & R_{3} \end{bmatrix}_{n}$$
 (I)

in which:

X is chosen from O, S, NH and NR" wherein R" is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals,
 - (iii) radicals of the formula



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wherein s is a number chosen from 0, 1, 2, 3 and 4; and R_4 is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, - C_6H_5 ,

-C₆H₄OH and

and;

(iv) radicals of the formula

wherein m is a number chosen from 3, 4 and 5;

 R_2 is chosen from hydrogen; saturated and unsaturated, linear and branched C_{1-8} hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH, -CH₂OH,

-CHOHCH₃, -(CH₂)_t-NH₂, wherein t is a number chosen from 3, 4 and 5;

R₃ is chosen from hydrogen and saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 150 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

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- 2. (Original) A process according to claim 1, wherein said microorganisms are *Propionibacterium acnes*.
- 3. (Original) A process according to claim 1, wherein said microorganisms are *Propionibacterium granulosum*.
- 4. (Original) A process according to claim 1, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical -NRR', or at least one hydroxyl radical and at least one radical -NRR', wherein R and R', which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.
- 5. (Original) A process according to claim 1, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.
- 6. (Original) A process according to claim 1, wherein said at least one compound is administered in the form of a cosmetic composition.
- 7. (Original) A process according to claim 6, wherein the treatment comprises the cosmetic treatment of at least one disorder chosen from seborrhoeic dermatitis, acne, greasy skin with a tendency towards acne, and hyperseborrhoea.

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- 8. (Original) A process according to claim 1, wherein said at least one compound is administered in the form of a pharmaceutical composition.
- 9. (Original) A process according to claim 8, in which the pharmaceutical composition is administered for treating at least one disorder chosen from seborrhoeic dermatitis, acne, greasy skin with a tendency towards acne and hyperseborrhoea.
- 10. (Original) A process according to claim 1, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S, NH and NR", wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

 R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

R₂ is hydrogen;

 R_3 is chosen from saturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

11. (Original) A process according to claim 10, wherein R_3 is chosen from methyl and ethyl radicals.

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12. (Original) A process according to claim 10, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical -NRR', or at least one hydroxyl radical and at least one radical -NRR', wherein R and R', which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.

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- 13. (Original) A process according to claim 10, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.
- 14. (Currently amended) A process according to claim 44 13, wherein n is chosen from a number ranging from 2 to 100.
- 15. (Original) A process according to claim 14, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.
 - 16. (Original) A process according to claim 10, wherein:

X is chosen from O, S, NH and NR", wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

 R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

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R₂ is hydrogen;

 R_3 is chosen from saturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

17. (Original) A process according to claim 1, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S and NH;

 R_1 is chosen from linear and branched, saturated C_{10-24} hydrocarbon-based radicals; and linear and branched unsaturated hydrocarbon-based radicals;

R₂ is hydrogen;

R₃ is a methyl radical; and

n is chosen from a number ranging from 4 to 50 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

18. (Original) A process according to claim 17, wherein n is chosen from a number ranging from 4 to 50.

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- 19. (Original) A process according to claim 17, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.
 - 20. (Original) A process according to claim 17, wherein X is NH.
- 21. (Original) A process according to claim 17, wherein R_1 is chosen from linear and branched, saturated C_{10-24} hydrocarbon-based radicals substituted with at least one hydroxyl radical.
- 22. (Original) A process according to claim 21, wherein said linear and branched, saturated C_{10-24} hydrocarbon-based radicals are substituted with 1, 2, 3, or 4 hydroxyl radicals.
- 23. (Original) A process according to claim 17, wherein R₁ is chosen from linear and branched unsaturated hydrocarbon-based radicals substituted with at least one hydroxyl radical.
 - 24. (Original) A process according to claim 1, wherein:

X is chosen from O, S and NH;

 R_1 is chosen from linear and branched, saturated C_{10-24} hydrocarbon-based radicals; and linear and branched unsaturated hydrocarbon-based radicals;

R₂ is hydrogen;

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R₃ is a methyl radical; and

n is chosen from a number ranging from 4 to 50 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

- 25. (Original) A process according to claim 1, wherein said at least one compound is present in said composition in an amount ranging from 0.001% to 30% by weight, relative to the total weight of the composition.
- 26. (Original) A process according to claim 25, wherein said at least one compound is present in said composition in an amount ranging from 0.01% to 15% by weight, relative to the total weight of the composition.
- 27. (Original) A process according to claim 26, wherein said at least one compound is present in said composition in an amount ranging from 0.5% to 5% by weight, relative to the total weight of the composition.
- 28. (Original) A process according to claim 10, wherein said at least one compound is applied in the form of a composition chosen from a cosmetic composition and a pharmaceutical composition.

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- 29. (Original) A process according to claim 17, wherein said at least one compound is applied in the form of a composition chosen from a cosmetic composition and a pharmaceutical composition.
- 30. (Original) A process according to claim 1, wherein said at least one compound is applied to at least one area chosen from the skin and the scalp.
- 31. (Withdrawn) A process for the manufacture of a composition for treatment of at least one condition chosen from seborrhoea of the skin and scalp, disorders associated with seborrhoea, and disorders associated with microorganisms of the genus *Propionibacterium*, said process comprising:

including in said composition at least one poly amino acid derivative chosen from formula (I) and salts thereof ,

$$R_1 - X - \begin{bmatrix} C - CH - N - \\ | & | \\ O - R_2 - R_3 \end{bmatrix}_n$$
 (I)

in which:

X is chosen from O, S, NH and NR" with R" is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals,

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(iii) radicals of the formula

$$-$$
CH $-$ COOH $|$ (CH₂) $-$ R₄

wherein s is a number chosen from 0, 1, 2, 3 and 4; and R_4 is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, - C_6H_5 , - C_6H_4 OH and

and;

(iv) radicals of the formula

wherein m is a number chosen from 3, 4 and 5;

- R_2 is chosen from hydrogen; saturated and unsaturated, linear and branched C_{1-8} hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH,
- -CH₂OH, -CHOHCH₃, -(CH₂)_t-NH₂ wherein t is a number chosen from 3, 4 and 5;

 R_3 is chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

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n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

- 32. (Withdrawn) A process according to claim 31, wherein said microorganisms are *Propionibacterium acnes*.
- 33. (Withdrawn) A process according to claim 31, wherein said microorganisms are *Propionibacterium granulosum*.
- 34. (Withdrawn) A process according to claim 31, wherein R₁ is chosen from linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical -NRR', or at least one hydroxyl radical and at least one radical -NRR', wherein R and R', which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals.
- 35. (Withdrawn) A process according to claim 31, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.

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36. (Withdrawn) A process according to claim 31, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S, NH and NR", wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

 R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

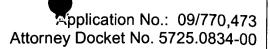
R₂ is hydrogen;

 R_3 is chosen from saturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

- 37. (Withdrawn) A process according to claim 36, wherein R_3 is chosen from methyl and ethyl radicals.
- 38. (Withdrawn) A process according to claim 36, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals substituted with at least one hydroxyl radical, at least one radical -NRR', or at least one hydroxyl radical and at least one radical -NRR', wherein R and R', which may be identical or different, are chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals.

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- 39. (Withdrawn) A process according to claim 36, wherein R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals interrupted with at least one hetero atom chosen from N, O and Si.
- 40. (Withdrawn) A process according to claim 36, wherein n is chosen from a number ranging from 2 to 100.
- 41. (Withdrawn) A process according to claim 36, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.
 - 42. (Withdrawn) A process according to claim 36, wherein:

X is chosen from O, S, NH and NR", wherein R" is chosen from saturated and unsaturated, linear and branched C₁₋₆ hydrocarbon-based radicals;

 R_1 is chosen from linear and branched, saturated and unsaturated C_{8-40} hydrocarbon-based radicals,

R₂ is hydrogen;

 R_3 is chosen from saturated, linear and branched $\mathsf{C}_{\mathsf{1-6}}$ hydrocarbon-based radicals; and

n is chosen from a number ranging from 2 to 100 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 150 to 10,000.

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43. (Withdrawn) A process according to claim 31, wherein in said polyamino acid derivatives of formula (I) and salts thereof, at least one of the following definitions apply:

X is chosen from O, S and NH;

R₁ is chosen from linear and branched, saturated C₁₀₋₂₄ hydrocarbon-based radicals; and linear and branched unsaturated hydrocarbon-based radicals;

R₂ is hydrogen;

R₃ is a methyl radical; and

n is chosen from a number ranging from 4 to 50 and a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.

- 44. (Withdrawn) A process according to claim 43, wherein n is chosen from a number ranging from 4 to 50.
- 45. (Withdrawn) A process according to claim 43, wherein n is a number chosen such that the number average molecular weight of said polyamino acid derivative ranges from 300 to 8,000.
 - 46. (Withdrawn) A process according to claim 43, wherein X is NH.

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47. (Withdrawn) A process according to claim 43, wherein R_1 is chosen from linear and branched, saturated C_{10-24} hydrocarbon-based radicals substituted with at least one hydroxyl radical.

48. (Withdrawn) A process according to claim 47, wherein said linear and branched, saturated C_{10-24} hydrocarbon-based radicals are substituted with 1, 2, 3, or 4 hydroxyl radicals.

49. (Withdrawn) A process according to claim 43, wherein R₁ is chosen from linear and branched unsaturated hydrocarbon-based radicals substituted with at least one hydroxyl radical.

50. (Withdrawn) A process according to claim 31, wherein said at least one polyamino acid derivative is present in said composition in an amount ranging from 0.001% to 30% by weight, relative to the total weight of the composition.

- 51. (Withdrawn) A process according to claim 50, wherein said at least one polyamino acid derivative is present in said composition in an amount ranging from 0.01% to 15% by weight, relative to the total weight of the composition.
- 52. (Withdrawn) A process according to claim 51, wherein said at least one polyamino acid derivative is present in said composition in an amount ranging from 0.5% to 5% by weight, relative to the total weight of the composition.

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- 53. (Withdrawn) A process according to claim 31, wherein said composition is a pharmaceutical composition.
 - 54. (Withdrawn) An anti-seborrhoeic composition comprising, a physiologically acceptable medium; and

an effective amount of at least one polyamino acid derivative of formula (I) and salts thereof,

$$R_{1} = X = \begin{bmatrix} C & CH & N & \\ & & & \\ O & R_{2} & R_{3} & \end{bmatrix}_{n}$$
 (I)

in which:

X is chosen from O, S, NH and NR" wherein R" is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C₁₋₄₀ hydrocarbon-based radicals,
 - (iii) radicals of the formula

$$---$$
CH $--$ COO $+$

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wherein s is a number chosen from 0, 1, 2, 3 and 4; and R_4 is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, - C_6H_5 , - C_6H_4OH and

and;

(iv) radicals of the formula

wherein m is a number chosen from 3, 4 and 5;

R₂ is chosen from hydrogen; saturated and unsaturated, linear and branched C₁₋₈ hydrocarbon-based radicals; and radicals chosen from -CH₂C₆H₅, -CH₂C₆H₄OH, -CH₂OH, -CHOHCH₃, -(CH₂)_t-NH₂ wherein t is a number chosen from 3, 4 and 5;

 R_3 is chosen from hydrogen and saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

55. (Withdrawn) An anti-seborrhoeic composition according to claim 54, wherein said composition is an anti-acne composition.

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56. (Withdrawn) An anti-bacterial composition comprising,

a physiologically acceptable medium; and

an effective amount of at least one polyamino acid derivative of formula (I) and salts thereof for treating bacteria,

$$R_{1} = X = \begin{bmatrix} C & CH & N & \\ & & & \\ & & & \\ O & R_{2} & R_{3} \end{bmatrix}_{n} H \qquad (I)$$

in which:

X is chosen from O, S, NH and NR" wherein R" is chosen from saturated and unsaturated, linear and branched C_{1-6} hydrocarbon-based radicals;

R₁ is chosen from:

- (i) hydrogen;
- (ii) linear and branched, saturated and unsaturated C_{1-40} hydrocarbon-based radicals,
 - (iii) radicals of the formula

$$---$$
CH $--$ COOH $|$ CH₂) $---$ R₄

wherein s is a number chosen from 0, 1, 2, 3 and 4; and R_4 is chosen from hydrogen and radicals chosen from -NH₂, -OH, -SH, -CHOHCH₃, -CONH₂, -NH-C(NH₂)=NH, - C_6H_5 , - C_6H_4 OH and

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and;

(iv) radicals of the formula

wherein m is a number chosen from 3, 4 and 5;

 R_2 is chosen from hydrogen; saturated and unsaturated, linear and branched C_{1-8} hydrocarbon-based radicals; and radicals chosen from - $CH_2C_6H_5$, - $CH_2C_6H_4OH$, - CH_2OH , - $CHOHCH_3$, - $(CH_2)_t$ - NH_2 wherein t is a number chosen from 3, 4 and 5;

 R_3 is chosen from hydrogen and saturated and unsaturated, linear and branched $C_{1.6}$ hydrocarbon-based radicals; and

n is a number greater than 1 chosen such that the number average molecular weight of the polyamino acid derivative ranges from 100 to 200 000;

wherein the repeating unit may be identical or different for the same derivative.

- 57. (Withdrawn) An anti-bacterial composition according to claim 56, wherein said composition is an anti-acne composition.
- 58. (Withdrawn) An antibacterial composition according to claim 55, wherein the bacteria is of the genus *Propionibacterium*.



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59. (Withdrawn) An antibacterial composition according to claim 58, wherein the bacteria is at least one of *Propionibacterium acnes* and *Propionibacterium granulosum*.

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